



Post Lecture Multiple Choice Questions (MCQs) Test Improves the Performance of Students

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ABSTRACT

Aim: To study whether post lecture MCQs tests improves the performance of students.

Key Words: MCQs Test, Cross sectional study, Terminal examination performance

INTRODUCTION

In spite of good potential, good infrastructure, many doctors and advances in medical care, health problems of our society are not reduced. We must study "Where we are going wrong?" Performance of the doctor is reduced if it is not based on proper knowledge. To gain proper knowledge students should be motivated. There are many reasons why all medical students do not become good, efficient, skilled doctors. One of these is knowledge.¹ If post lecture MCQ test is conducted, students will take more interest. MCQ test is a very effective assessment technique². They will study and will get knowledge automatically. More and more efficient doctors will serve society. Healthy community will be formed because of good doctors.

METHODOLOGY

Study design- original, Cross sectional study, qualitative and quantitative study

Study place: P.I.M.S.& R, Urun Islampur

Study Duration: 5 months

Source of funding: No big amount was required, so whatever was required, used from my pocket.

Two batches (one batch 2015-16, another batch-2016-17) of 1st MBBS students were considered for the study. Students

of batch 2015-16 were not exposed to MCQs tests after lectures but students of another batch-2016-17 were exposed to MCQs tests after lectures. Results of terminal examination of both batches were compared.

MATERIAL AND METHOD

1. Orally Informed and Written Consent of Students was taken. Approval of administrative committee & ethical committee was obtained.
2. Pre-validated MCQs were used for MCQ Tests. MCQ tests were taken after lectures of various topics for 2017-18 batch. These tests were not conducted for 2016-17 batch.
3. Questionnaire was prepared and feedback was taken.
4. Now results of terminal examination of these two batches were compared. MCQ Tests were used as these often require less time to administer³ and lower likelihood of teacher bias in the results. Terminal exams of two batches were based on same topics.
5. No Conflict of interest.

RESULTS

Statistical analysis was done using independent t test. $P < 0.000$ Results of terminal examination of two batches were considered.

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Students obtaining marks below 9 (In the group 1 and 2) are many from 2016-17 batch as compared to 2017-18 batch. Students obtaining marks above 9 (In the group 3 and 4) are many from 2017-18 batch as compared to 2016-17 batch.

DISCUSSION

(Refer Table1, chart 2 and 3) Students of batch 2017-18 were giving MCQ tests after Lectures. In terminal examination performance of this batch was good as compared to performance of students of batch 2016-17.

Bhatt M, Thapa B and Bhattacharya A also came to the same conclusion after their work in physiology. They mention 'MCQ supplementation in a physiology didactic class is a good learning tool'. Use of multiple choice questions test after lectures helps medical students to improve their performance in written formative assessment in physiology⁴.

Another study done by Stanger-Hall says 'Students show improved scores in their formative written assessment when the lectures are assisted with the use of MCQs than when MCQs are not employed before and during the lecture'. The same conclusion is drawn from this study.

According to Beckert, L., Wilkinson, T. J., & Sainsbury, R. 'While giving MCQ test every time students retrieve information from memory and use it to answer a test question, they are potentially strengthening (i.e. Better retention) and/or changing the representation of that information in memory (i.e. Deeper understanding)⁶.

Multiple-choice questions increases performance on a subsequent short-answer test⁷

Refer chart 1 which shows feedback of students about MCQs tests

1. 96.666% students strongly agree that good knowledge achieved and retained by MCQ tests.
2. 94.444% students strongly agree that MCQ tests should be conducted by other departments also.

3. 93.333 students strongly agree that interaction with students also increased by MCQ tests.

CONCLUSION

MCQs tests improve the performance of students. Other studies referred above also conclude the same thing.

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Table 1: Marks of MCQ Test 20 marks (Terminal Examination)

Roll No.	Marks 2016-17	Marks 2017-18
01	15	13
02	12	04
03	12	10
04	06	10
05	11	09
06	09	13
07	06	13
08	11	05
09	10	12
10	05	09
11	06	10
12	07	06
13	06	09
14	07	10
15	08	12
16	04	14
17	08	15
18	09	13
19	06	14
20	09	10
21	09	14
22	11	09
23	08	10
24	12	07
25	05	15
26	14	12
27	12	10
28	14	10
29	13	10
30	08	15
31	06	14
32	11	12
33	12	12
34	10	07
35	07	08
36	08	11
37	12	09
38	11	06
39	12	09
40	13	14
41	09	12
42	15	17

Table 1: (Continued)

Roll No.	Marks 2016-17	Marks 2017-18
43	10	14
44	06	11
45	07	11
46	05	11
47	11	11
48	13	16
49	13	10
50	14	11
51	14	08
52	14	11
53	08	13
54	10	08
55	14	11
56	10	13
57	07	16
58	07	15
59	12	13
60	09	11
61	06	11
62	10	09
63	13	15
64	11	15
65	11	13
66	15	07
67	12	10
68	06	09
69	03	08
70	12	08
71	11	12
72	08	11
73	07	13
74	14	14
75	13	15
76	14	11
77	14	17
78	14	11
79	07	06
80	10	13
81	07	11
82	14	13
83	11	09
84	04	12

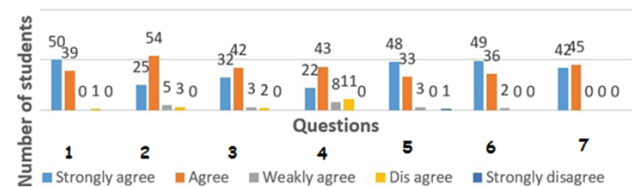
Table 1: (Continued)

Roll No.	Marks 2016-17	Marks 2017-18
85	09	13
86	09	15
87	06	14
88	03	13
89	11	06
90	12	13
91	08	10
92	16	13
93	10	11
94	09	15
95	12	12
96	10	09
97	06	15
98	07	11
99	03	17
100	09	09
101	11	14
102	09	14
103	05	12
104	08	06
105	10	12
106	10	11
107	09	11
108	09	17
109	12	17
110	06	10
111	09	14
112	09	11
113	08	10
114	13	12
115	05	18
116	11	11
117	09	09
118	09	09
119	14	10
120	07	14
121	10	13
122	08	15

Table 1: (Continued)

Roll No.	Marks 2016-17	Marks 2017-18
123	06	13
124	07	14
125	09	12
126	07	17
127	10	14
128	11	13
129	10	-
130	10	06
131	08	09
132	06	07
133	05	10
134	10	10
135	11	13
136	09	10
137	02	14
138	13	11
139	10	11
140	05	07
141	07	09
142	07	13
143	09	07
144	08	08
145	10	13
146	07	08
147	09	10
148	06	13
149	10	10
150	08	-

Likert scale showing response to questionnaire



Questionnaire

1. MCQ test is useful.
2. MCQ test is increases confidence.
3. MCQ test is reduces fear of examination.
4. MCQ test is increases interaction between students and teachers.
5. MCQ test should be conducted in other departments also.
6. MCQ test increases knowledge about that topic.
7. Retention of knowledge is good after these tests

Chart 1: Title- Feed back of students.

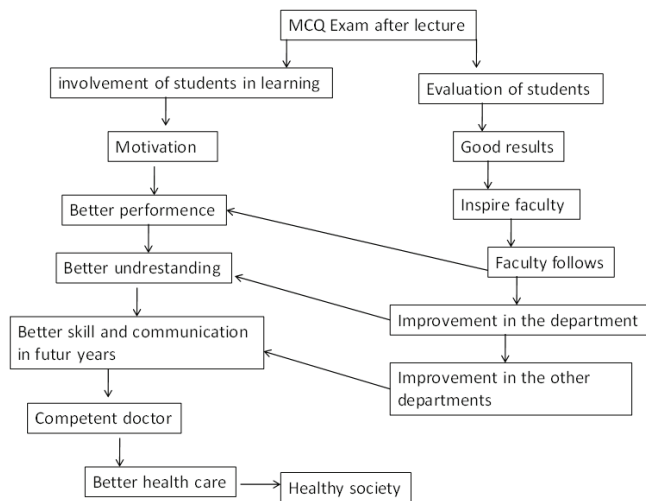
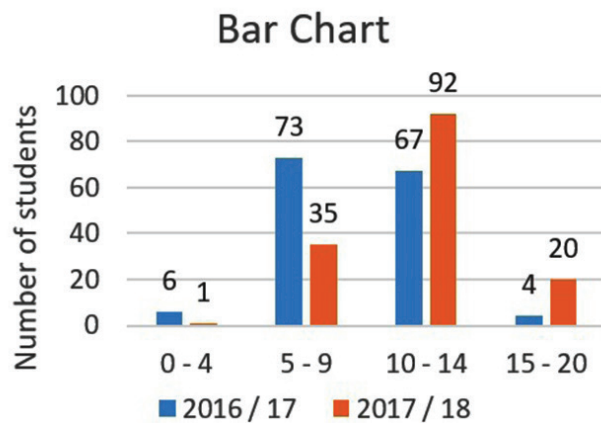


Chart 2: Flow chart showing the consequences of MCQs tests.



Marks of the students

Chart 3: Comparing marks of two batches.

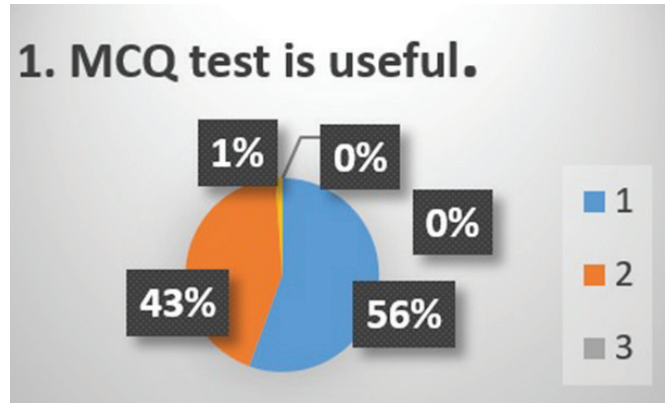


Chart 4: Regarding feedback of students.

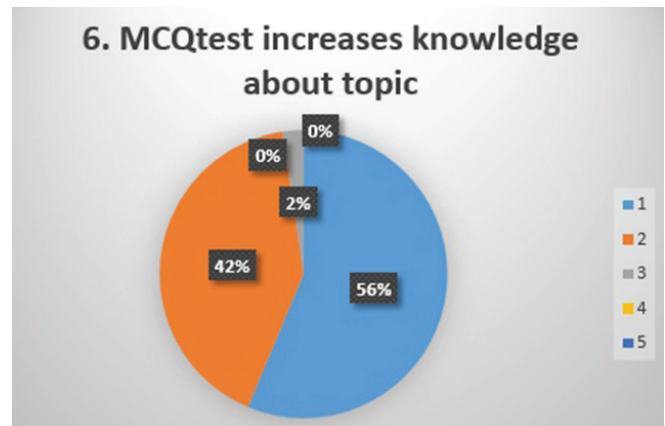


Chart 5: Regarding feedback of students.